

REMARKS

1. Claims 1-10 are pending in the application, with claim 1 being independent.
2. Claims 1-6, and 9-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,260,097 to Casey et al. in view of U.S. 2001/0049739 to Wakayama et al. and further in view of non patent literature (NPL) Method to set up LSP using VLAN tag switching.
3. Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,260,097 to Casey et al. in view of U.S. 2001/0049739 to Wakayama et al. and in view of non patent literature (NPL) Method to set up LSP using VLAN tag switching and further in view of U.S. Patent No. 7,130,926 to Wu et al.
4. Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,260,097 to Casey et al. in view of U.S. 2001/0049739 to Wakayama et al. and in view of non patent literature (NPL) Method to set up LSP using VLAN tag switching and further in view of U.S. Patent No. 7,130,926 to Wu et al. and further in view of U.S. Patent No. 7,136,374 to Kompella et al.
5. Applicant has amended claim 1 and canceled claims 3 and 4. Support for the amendments to claim 1 may be found in claims 3 and 4. No new matter has been added.
6. Claim Rejections under 35 USC§103

Claim 1 has been amended herein to incorporate the technical features of the original claims 3 and 4 as follows:

1. A method for implementing a virtual leased line (VLL), comprising the steps of: configuring a virtual local area network (VLAN) label stack on the basis of VLAN QinQ;

configuring a VLAN QinQ switching device and a multi-protocol label switching (MPLS) device to communicate with each other and implementing switching between VLAN labels and MPLS labels;

extending a label distribution protocol (LDP) to support encapsulation of VLAN labels, so as to carry out VLAN label assignment and take the extended LDP as a topology discovery protocol for an L2 virtual private network;

setting the range of VLAN labels;

implementing a VLL by constructing a VLAN switching path;

wherein the step of configuring a VLAN QinQ switching device and an MPLS device to communicate with each other further comprises the sub-steps of:

if the VLAN QinQ switching device is at upstream, accomplishing conversion from VLAN QinQ encapsulation to MPLS encapsulation at an outgoing interface of the VLAN QinQ switching device;

if the VLAN QinQ switching device is at downstream,

assigning an MPLS label with the same range as VLAN labels to the upstream MPLS device by the VLAN QinQ switching device, identifying the MPLS label at the incoming interface of the VLAN QinQ switching device, and treating the label as a VLAN label, with the upstream MPLS device not modified; or

assigning a VLAN label to the upstream MPLS device by the VLAN QinQ switching device, with the upstream MPLS device modified to support the VLAN QinQ encapsulation. (emphasis added)

Applicant respectfully requests that the rejection of claims under 35 USC § 103(a) be withdrawn in view of the current amendments to the claims. The applicant respectfully submits that the amended claim 1 is patentable over the cited references at least for the following reasons.

Regarding the Claim Rejections - 35 USC & 103

Claims 1-6 and 9-10 are rejected under 35 USC § 103(a) as being unpatentable over Casey et al.(US 7,260,097, hereinafter Casey) in view of Wakayama et al. (US 2001/0049739, hereinafter Wakayama) in further view of non patent literature (NPL) method. Claim 7 is

rejected under 35 USC § 103(a) as being unpatentable over Casey modified by Wakayama et al. in view of non patent literature (NPL) method in further view of Wu et al. (US 7,130,926). Claim 8 is rejected under 35 USC § 103(a) as being unpatentable over Casey modified by Wakayama et al. in view of non patent literature (NPL) method in further view of Wu et al. and in further view of Kompella et al. (US 7,136,374).

Applicant respectfully requests that the rejection of claims under 35 USC § 103(a) be withdrawn in view of the current amendments to the claims.

The applicant respectfully submits that the amended claim 1 is patentable over the cited references at least for the following reasons:

Wakayama discloses in paragraph [0058] (as cited by the Examiner) that “The VLAN ID search table 123-1 uses a VLAN ID as a search key and is the table for determining which VLAN it belongs to by searching it. The route search table 123-2 for an MPLS output is the table for determining an output label at the ingress node from the VLAN network to the MPLS network. The MPLS label search table 123-3 uses an MPLS label as a search key and is the table for determining which VLAN it belongs to”.

Furthermore, Wakayama discloses that in a device that interworks a VLAN network and an MPLS network, a VLAN ID is associated with an MPLS label. An output MPLS label is determined from a pair of a VLAN ID and the information in the layer 3 or layer 4 header of a packet. In a device that performs interworking from the MPLS network to another VLAN network, the input MPLS label is associated with a VLAN ID (see Abstract).

However, no portion of Wakayama discloses or suggests the technical features “*if the VLAN QinQ switching device is at downstream, assigning an MPLS label with the same range as VLAN labels to the upstream MPLS device by the VLAN QinQ switching device, identifying the MPLS label at the incoming interface of the VLAN QinQ switching device, and treating the label as a VLAN label, with the upstream MPLS device not modified; or assigning a VLAN label to the upstream MPLS device by the VLAN QinQ switching device, with the upstream MPLS device modified to support the VLAN QinQ encapsulation*” as recited in amended claim 1.

It can be seen from above that Wakayama teaches that the conversion of a VLAN label to MPLS label is implemented by **associating a VLAN ID with an MPLS label and** searching the search tables with the VLAN ID etc. as a search key.

However, in the technical solution claimed in the amended claim 1 of the present invention, in order to enable intercommunication between the VLAN QinQ switching device and the MPLS device so as to support switching between VLAN labels and MPLS labels, when the VLAN QinQ switching device is located at downstream, the VLAN QinQ switching device assigns an MPLS label to the upstream device, the **MPLS labels are identified and treated as VLAN labels** at the incoming interface of the VLAN QinQ switching device (see paragraph [0066], lines 2-3 of the original description); or the VLAN QinQ switching device assigns a VLAN label to the upstream device, with the upstream MPLS device being modified to support QinQ label encapsulation(see paragraph [0067] of the original description).

In conclusion, Wakayama discloses communication between a VLAN device and an MPLS device, however, Wakayama does not relate to the communication between a VLAN **QinQ** device and an MPLS device. In fact, Wakayama does not relate to **QinQ** at all. Moreover, it can be seen from Figure 1 of Wakayama, the technical solution of Wakayama does not differentiate public network VLAN and private network VLAN, letting alone an encapsulation between VLAN IDs.

Applicants thus respectfully submit that the technical solution of the amended claim 1 to implement the switching between VLAN labels and MPLS labels is quite different from that of Wakayama. No portion of Wakayama discloses or suggests the solution as claimed by claim 1 of the present invention, nor does it even give any hint about forming such a technical solution.

Furthermore, although NPL discloses LDP extension, no portion of NPL relates to taking the extended LDP as a topology discovery protocol for an L2 virtual private network. Therefore, neither Casey nor the NPL discloses or suggests the newly added technical features in italic of the currently amended claim 1. Hence, the combination of Wakayama, Casey and NPL fails to teach or suggest the technical solution of the currently amended claim 1.

Therefore, claim 1 of the present invention can not be rendered obvious by Casey in view of Wakayama in further view of NPL.

Therefore, it is respectfully submitted that the currently amended claim 1 is patentable under 35 USC § 103(a) over Casey in view of Wakayama in further view of NPL.

Dependent Claims

Claims 2 and 5-10 depend on claim 1. “If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.” *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, in light of the above discussion, Applicants submit that claims 2 and 5-10 are also allowable at least by virtue of their dependency on nonobvious claims as well as the additional limitations recited by each of these claims.

Applicant further respectfully notes, for the sake of a complete record, that the Examiner’s rejection falls short of the requirements for a proper 35 USC §103 rejection as set forth in the new *KSR v. Teleflex* Examination Guidelines of October 10, 2007.

The new Guidelines provide that “When making an obviousness rejection, Office personnel must therefore ensure that the written record includes findings of fact concerning the state of the art and the teachings of the references applied. In certain circumstances, it may also be important to include explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done. Factual findings made by Office personnel are the necessary underpinnings to establish obviousness.” There are such factual findings in the present Action with respect to how a person of ordinary skill would have understood prior art teachings or what a person of ordinary skill would have known or could have done, and in their stead simple conclusory statements as to what the skilled person, according to the Examiner’s opinion, would allegedly have done.

The Guidelines further admonish that “Although a rejection need not be based on a teaching or suggestion to combine, a preferred search will be directed to finding references that provide such a teaching or suggestion if they exist.” The Examiner’s proffered suggestion is in fact nothing more than a stated goal of one of the references that provides absolutely no motivation to seek and combine with the other reference.

The Guidelines further set forth that “Any obviousness rejection should include, either explicitly or implicitly in view of the prior art applied, an indication of the level of ordinary skill.” No such indication, explicit or implicit, is to be found in the Examiner’s Action.

Perhaps the most instructive portion of the Guidelines is the clear statement that “The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the

claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn* stated that “ ‘[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’ ” Again, rather than offer articulated reasoning with some rational underpinning, the Examiner merely asserts a conclusion of obviousness.

These Guidelines do make clear that “the familiar teaching-suggestion-motivation (TSM) rationale” can still be employed by Examiners in making an obviousness rejection. However, as noted above, the Examiner has not identified any such actual suggestion in either of the cited references.

Conclusion

In view of the above, Applicant respectfully submits that independent claim 1 as presently amended, and all other pending claims dependent therefrom, are in fact novel and nonobvious over the art on record, and requests the Examiner to kindly reconsider and pass all claims to issue.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of

months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

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